

REMARKS

The Office action dated February 15, 2011, has been received and carefully reviewed.

New claim 9 represents a combination of the limitations of original claims 1 and 2. New claim 10 represents a combination of the limitations of original claims 3 and 4.

A new abstract of the disclosure, which is believed to comply fully with the rules, is submitted herewith.

The rejection of claims 1, 3, and 5-7 under 35 U.S.C. 112, second paragraph, is obviated by amendment. It is believed that the objectionable claim language does not appear in the amended claims.

Favorable reconsideration and withdrawal of the rejection under 35 U.S.C. 112, second paragraph is thus urged.

Claims 1-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being obvious Bertocchi I (U.S. 5,283,078) in view of Bertocchi II (U.S. 4,643,085) and Pepin et al (FR 2,147,449). Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious Bertocchi I in view of Bertocchi II and Pepin et al. and further in view of Johnston (US 6,550,376). Claim 8 is rejected under 35 U.S.C. 103(a) as being obvious Bertocchi I in view of Bertocchi II and Pepin et al. and further in view of Wallace et al. (US 3,778,209).

The Applicant submits that the prior art does not

disclose or suggest the invention as presently claimed.

In the process according to the present invention, as defined by independent claims 9 and 10, a softening step is carried out in a softening section in which fruits or vegetables are fed. In the softening step no extraction is provided, i.e. separation of juice or puree from peelings and seeds.

The softening section has a rotor driven by a first rotor drive means in such a way that it rotates within a stator for smashing the fruits or the vegetables obtaining an intermediate smashed food pulp. The stator is provided with protrusions and recesses. Therefore, during its rotation inside the stator, a rapid succession of pulses is impressed on the food product for smashing and softening it.

In the softening section, no sieve is provided, and therefore, no extraction of purée or juice is carried out. All the food product entering the softening section exits the softening section.

Such an apparatus is disclosed in Bertocchi I, which is cited in the application disclosure as prior art.

In the present invention, the softened product exits the softening section and enters into an extraction section for an extraction step, similar to that described in Bertocchi II. In the extraction section, a second rotor having a conical

shape rotates within a sieve or screen in such a way as to separate juice or purée, which is collected radially and conveyed towards a first outlet, from solid parts (peelings, seeds, hard fibres) which are moved axially and then disposed of, through a second outlet.

Machines like Bertocchi I and Bertocchi II can operate separately, as independent units. No hint is given in the prior art to combine such machines in the way defined by the presently amended claims.

The closest prior art is that acknowledged by the Applicant in Figure 1 of the present application, and described in the specification with reference to that Figure.

A problem arises in Figure 1 in choosing the proper intensity of the smashing and extracting action.

The technical problem of Bertocchi I, as clearly stated in the application at page 2, lines 25-30, is that even if good results are achieved for all those vegetables that, owing to a low consistency of their pulp (i.e. apples, peaches, pears, apricots), can be easily softened, it is less suitable for products having higher consistency (i.e. carrots, quinces, etc.) that require a stronger softening action to reach a high efficiency in the following extraction step.

In particular, in the case of a vegetable having a pulp with a low consistency (e.g. strawberry, peaches, pears,

apricots) a strong softening must be avoided for the following reasons:

- the greatest part of the vegetable, and in particular the seeds and the peels, tends to pass through the sieve, "polluting" the juice.

- its organoleptic properties and its final aspect are modified;

Instead, in the case of a vegetable having a pulp with a high consistency (e.g. carrots, quinces, etc.) a stronger softening action must be carried out because if a such vegetable is not sufficiently softened, when it is submitted to the extraction step, a very small part of the vegetable tends to pass through the sieve and the waste product contains a great amount of puree or juice. Therefore the yield of the process is drastically reduced.

The main aim of the present invention is to provide a very flexible and versatile machine that is able to treat a great variety of different vegetables obtaining for all the treated varieties excellent organoleptic properties and optimizing the yield of the process.

The above described aim is obtained controlling the speed of the softening step, i.e. the speed of rotation of the first rotor inside the stator depending on the kind of vegetable to treat. This is obtained controlling the first motor, without

affecting the speed of the extraction step through the sieve obtained by a second motor that operates the second rotor.

No indication in either Bertocchi I or Bertocchi II can be found for such a solution.

The Pepin et al. reference does not fill the gaps left by Bertocchi I and Bertocchi II.

Pepin et al. discloses two different embodiments of a machine for extracting juice from fruit. A softening or smashing step is not provided in Pepin et al., neither in the first embodiment nor in the second embodiment of the extraction apparatus of Pepin et al. In the first embodiment shown in Figure 1, the extraction apparatus comprises a sieve inside of which a rotor rotates about a longitudinal axis. During the extraction step, the liquid part of the grapes pass through the sieve and is discharged through ducts (9, 9a, 9b). The solid parts of the grapes pass through six successive sections of the rotor having different characteristics. A first shaft, driven by a first motor 5, and a second shaft, driven by a second motor 6, are coaxially arranged. In particular, the first shaft comprises two screw-sections 10a and 11a and the second shaft comprises four screw-sections 12a-15a. The solid parts which do not pass through the sieve are discharged through an exit 16.

In the second embodiment of Pepin et al., shown in Figure

2, the extraction apparatus comprises a first extraction section provided with a first screw that rotates about a first shaft 33 and that carries out a first extraction step for separating the solid parts which are discharged through an exit and the liquid part, i.e. the juice which passes through the sieve and it is submitted to a successive extraction step.

Therefore there is no reason for a skilled person to look at Pepin et al. for solving the above-disclosed technical problem. However, even when considering Pepin et al., a skilled person could not obviously obtain the subject-matter of the claims from a combination of Bertocchi I, Bertocchi II and Pepin et al. In particular, no hint can be found in Pepin et al. for actuating the first and the second rotor driving means by a speed adjusting means in such a way that a predetermined ratio between the first and the second speed of the first and the second rotor is obtained, responsively to an input parameter relative to the consistency of the food pulps.

In view of the foregoing remarks, Applicant respectfully submits that the rejections under 35 U.S.C. 103(a) are unsustainable, and urges favorable reconsideration and withdrawal thereof.

It is believed that the present application is now in condition for allowance, and an early allowance to this effect is respectfully urged.

Applicants hereby petition the Commissioner for Patents to extend the time for reply to the Final Office action dated February 15, 2011, for three (3) months from May 15, 2011, to August 15, 2011. Payment is being made by electronic funds along with the filing of this paper.

Respectfully submitted



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